LISTING OF CLAIMS:

Claim 1 (Currently Amended): A medical device for use in treating a human patient, comprising:

a metal alloy substrate having an average grain size in the range of one to ten microns.

Claim 2 (Canceled)

Claim 3 (Original): The device of claim 1, wherein the substrate is a stainless steel.

Claim 4 (Original): The device of claim 3, wherein the substrate is 316L stainless steel.

Claim 5 (Original): The device of claim 4, wherein the average grain size of the substrate is in the range of three to eight microns.

Claim 6 (Original): The device of claim 1, wherein the substrate is a cobalt-chromium alloy.

Claim 7 (Original): The device of claim 1, wherein the substrate is a nickel-titanium alloy.

Claim 8 (Original): The device of claim 1, wherein the substrate is a platinum-iridium alloy.

Claim 9 (Currently amended): The device of claim 1, wherein the substrate is ~~titanium or~~ a titanium based alloy.

Claim 10 (Currently amended): The device of claim 1, wherein the substrate is ~~tantalum or~~ a tantalum based alloy.

Claims 11-13 (Canceled)

Claim 14 (Original): The device of claim 1, wherein the medical device is a stent.

Claim 15 (Original): The device of claim 14, wherein the stent is configured with a plurality of struts having a thickness, such that the number of grains across a strut thickness is in the range of five to fifteen.

Claim 16 (Original): The device of claim 14, wherein the stent is configured with a plurality of elongate elements having a thickness, such that the average number of grains across an element thickness is more than six.

Claims 17-21 (Canceled)

Claim 22 (Previously presented): An intravascular stent for use in a body lumen, comprising:

a plurality of cylindrical rings interconnected to form the stent, each cylindrical ring having a first delivery diameter and a second expanded diameter; and

each cylindrical ring being formed from a fine grained material having an average grain size of one to ten microns.

Claim 23 (Previously presented): The intravascular stent of claim 22, wherein the cylindrical rings are formed from 316L stainless steel.

Claim 24 (Original): The intravascular stent of claim 22, wherein the cylindrical rings are formed from 316L stainless steel having an average grain size of about five microns.

Claim 25 (Canceled)

Claim 26 (Original): The intravascular stent of claim 22, further comprising at least one straight link attaching each cylindrical ring to an adjacent cylindrical ring.

Claim 27 (Original): The intravascular stent of claim 22, further comprising at least one undulating link attaching each cylindrical ring to an adjacent cylindrical ring.

Claim 28 (Original): The intravascular stent of claim 22, further comprising at least one undulating link attaching a first cylindrical ring to a first adjacent cylindrical ring, and at least one straight link attaching a second cylindrical ring to a second adjacent cylindrical ring.

Claim 29 (Original): The intravascular stent of claim 22, wherein each cylindrical ring includes a proximal end, a distal end and a cylindrical wall extending circumferentially between the proximal end and the distal end, and further including an undulating link positioned substantially within the cylindrical wall of a first cylindrical ring so as to attach the first cylindrical ring to an adjacent cylindrical ring.

Claims 30-40 (Canceled)

Claim 41 (New): A stent comprising a substrate having an average grain size in the range of one to ten microns.

Claim 42 (New): The stent of claim 41, wherein the stent is configured with a plurality of struts having a thickness, such that the number of grains across a strut thickness is in the range of five to fifteen.

Claim 43 (New): The stent of claim 41, wherein the stent is configured with a plurality of elongate elements having a thickness, such that the average number of grains across an element thickness is more than six.

Claim 44 (New): The stent of claim 41, wherein the substrate is a metal selected from the group consisting of titanium and tantalum.

Claim 45 (New): The stent of claim 41, wherein the substrate is a metal alloy selected from the group consisting of stainless steel alloys, cobalt-chromium alloys, nickel-titanium alloys, platinum-iridium alloys, titanium based alloys and tantalum based alloys.